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10/585,473	07/07/2006	David Mark Allison	G40.2-13290-US01	5905

490 7590 08/06/2009  
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EXAMINER
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SCHAPER, MICHAEL T

ART UNIT	PAPER NUMBER
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3775

MAIL DATE	DELIVERY MODE
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08/06/2009

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/585,473	<b>Applicant(s)</b> ALLISON, DAVID MARK	
	<b>Examiner</b> MICHAEL T. SCHAPER	<b>Art Unit</b> 3775	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 21 May 2009.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-3 and 6-22 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-3 and 6-22 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 14 May 2009 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)          | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

### ***Response to Arguments***

Applicant's arguments filed 6 Jun 2009 have been fully considered but they are not persuasive.

As to certain Applicant's arguments that amended claims 1-9, 15, and 17 are not anticipated by *Murray*, Examiner notes that a rigid (as claimed) member is incapable of providing compression or being deformed in the manner claimed (*i.e.* the connecting members) as it cannot flex or compress or be in tension. Therefore either requiring the connecting member to be resilient or requiring the connection to not maintain rigidity is the only way that the device is to be deformable.

In addition, *Murray* discloses its embodiments to be permanently deformable (see col. 4 / lines 6-17) when installed and still functioning properly as a bone fixing device as the claimed invention does, allowing for *Murray* to properly anticipate the claimed invention.

### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 20 and 22 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter

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which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

As to claim 20, the claimed phrase “**wherein the connecting members are spaced apart from each other by substantially a diameter of the annulus**” (claim 20, lines 1-2) has not been disclosed in the specification or figures properly such that one of ordinary skill in the art would have appreciated it within the specification.

As to claim 22, the claimed phrase “**wherein at least one of the pairs of fixing portions is arranged to provide only a shingle coupling to the respective bone piece**” (claim 22, lines 1-2) has not been disclosed or defined in the specification or figures properly such that one of ordinary skill in the art would have appreciated it within the specification.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-3, 6-14, and 18-22 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

As to claim 1, the claimed phrase “[ . . . ] **a pair of substantially rigid connecting members extending between and substantially rigidly connecting the fixing portions, the connecting members being locatable across one or more fissures between the bone pieces and deformable while still substantially**

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**maintaining rigidity subsequent to deformation of the connecting members [ . . . ]”**

renders the claims indefinite because Examiner unsure how a rigid member can (1.) be deformed *per se* (claim 1, line 8) and (2.) then be a rigid connection (claim 1, line 7), and (3.) how one can deform any arbitrary rigid member to an assumedly substantially equally rigid conformation (claim 1, line 9), due to the fact that the plain meaning of *rigid* is “stiff,” “unyielding,” “inflexible,” or “resistant to bending.” For purposes of examination, due to Applicant's use of the claim term *substantially*, Examiner will (and must) interpret the claim limitation broadly. This analysis is analogous to the system of claims 10-14.

As to claims 18 and 22, the claimed phrase “**at least one of the pairs of fixing portions**” (claim 18 / lines 1-2, claim 22, lines 1-2, emphasis added) renders the claim indefinite due to a lack of antecedent basis and that there is only one claimed pair of fixing portions. For examination purposes, it will be interpreted to mean only one.

As to claim 19, the claimed phrase “**at least one of the fixing portions of one of the bone fixing devices**” (claim 19 / lines 1-2) renders the claim indefinite due to a lack of antecedent basis and that there is only one claimed of bone fixing device. For examination purposes, it will be interpreted to mean only one.

As to claim 22, the claimed phrase “**a shingle coupling**” (claim 22, line 2) renders the claim indefinite because its definition is unclear to the Examiner. It will be interpreted to mean, in conjunction with the other indefiniteness rejection of claim 22 above, a mere and sole coupling to the bone using fasteners as roof shingles are fastened.

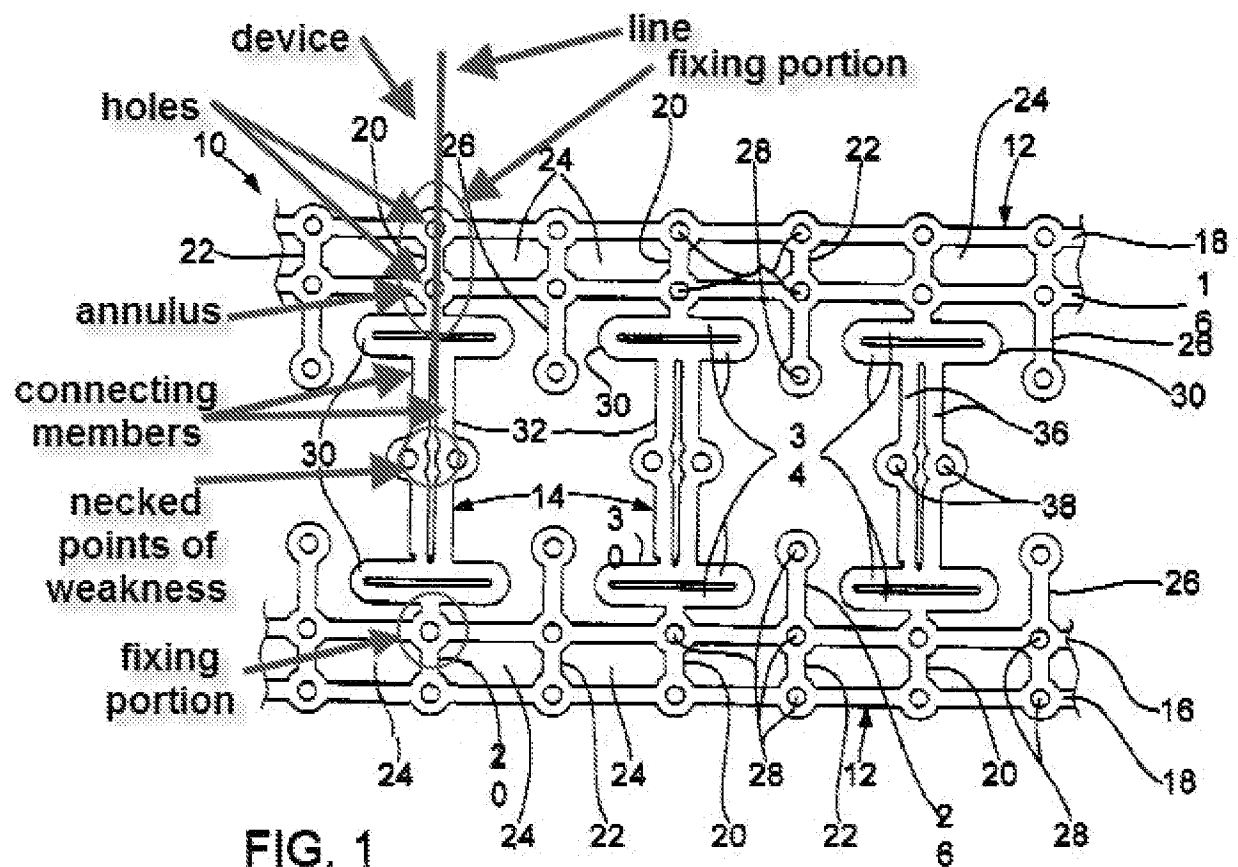
**Claim Rejections - 35 USC § 102**

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-3, 6-9, 15, and 17-22 are rejected under 35 U.S.C. 102(b) as being anticipated by Murray (US 6093188).



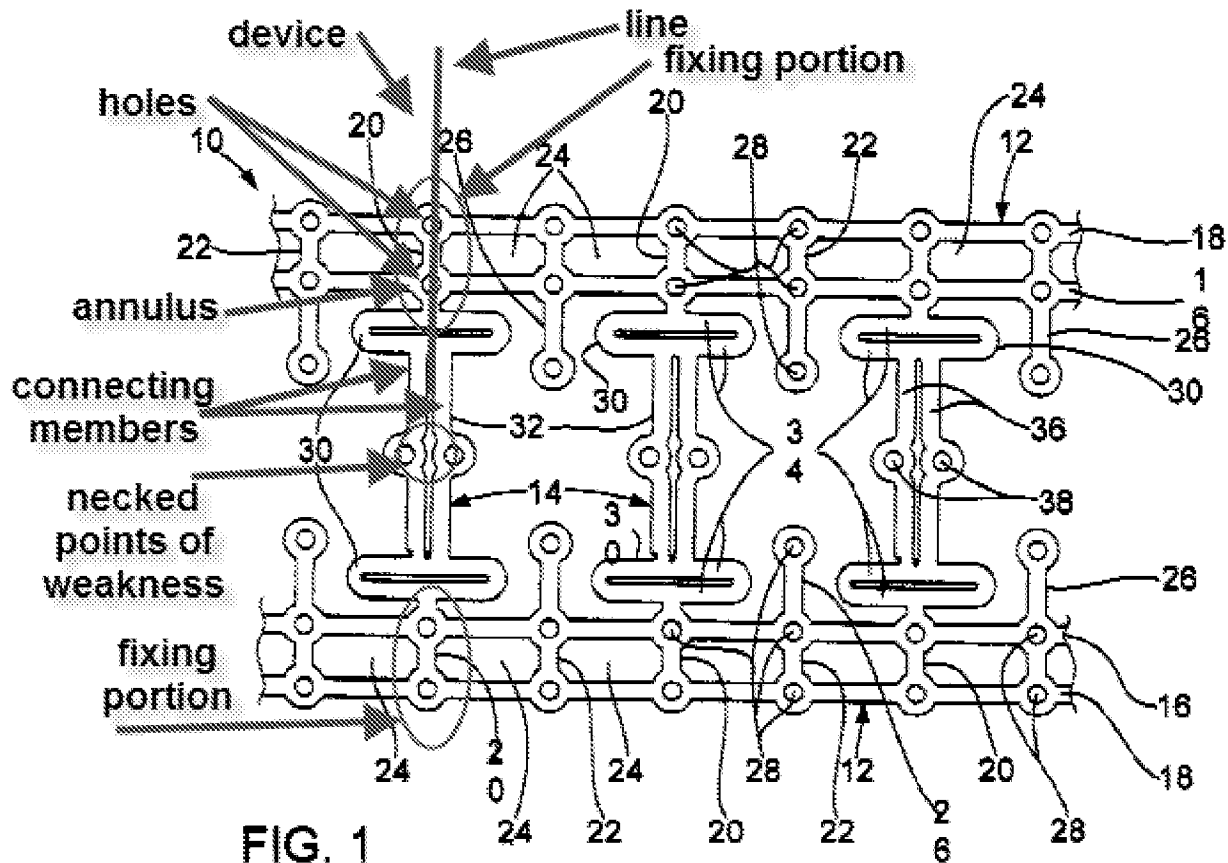
As to claims 1-3, 6-9, and 18-20, Murray discloses (see FIGURE inserted above) a bone fixing device for fixing bone pieces together, the bone fixing device comprising a

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pair of spaced-apart fixing portions (see above), each having at least one hole (see above) dimensioned such that a fastener capable of extending therethrough for coupling the fixing portion to bone; and, a pair of substantially rigid connecting members (see above) extending between and rigidly connecting the fixing portions, the connecting members being locatable across one or more fissures between the bone pieces and deformable while still substantially maintaining rigidity subsequent to deformation of the connecting members such that the deformation draws the fixing portions towards each other (col. 2 / line 66 to col. 3 / line 5) so that the one or more fissures are closed with the bone pieces held in compression (see FIG. 4); wherein a fixing portion comprises an annulus (see above); wherein the connecting members are deformable symmetrically with respect to a line (see above) extending through the center of the pair of fixing portions such that the fixing portions are drawn toward one another along the line; wherein the connecting members are parallel prior to deformation (see above); wherein each connecting member has at least one point of weakness at which bending of the connecting member occurs in preference to elsewhere on the connecting member (see above); wherein each of the at least one point of weakness is a necked portion of the respective connecting member (see above); wherein at least one of the fixing portions comprises at least two holes each for receiving a bone fastener (see above); wherein one of the pair of fixing portions has only a single hole; wherein at least one of the fixing portion of one of the bone fixing device is configured to be, *i.e.* capable of being, concentrically overlapped with a fixing portion of another bone fixing device in a pivotable arrangement about a bone fastener extending concentrically through the holes

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of the overlapped fixing portions; wherein the connecting members are spaced apart from each other by substantially a(n) (inner) diameter of the annulus (at necked portion).

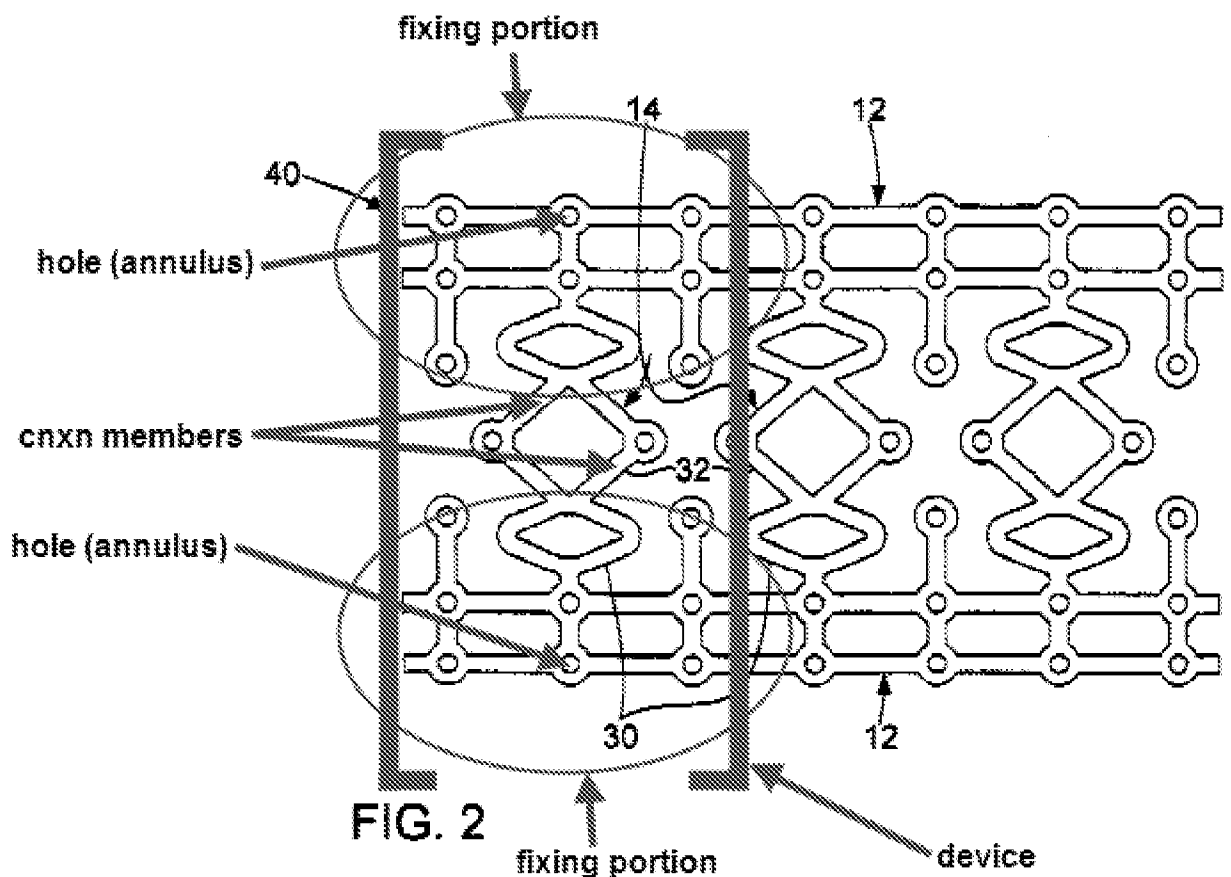


As to claims 15 and 17, Murray discloses a method of fixing bone pieces separated by a fissure, comprising the steps of providing at least one bone fixing device (see FIGURE inserted above) having a pair of spaced-apart fixing portions (see above) each having at least one hole (see above) and in the form of an annulus (see above) being dimensioned such that a fastener can extend therethrough and a pair of deformable connecting members (see above) extending and substantially rigidly connecting between the fixing portions (see FIG. 1); fixing one of the fixing portions to one bone piece using a fastener and the other fixing portion to another bone piece using



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another fastener such that the connecting members extend across the fissure (col. 3 / lines 31-34); and, simultaneously deforming the connecting members such that the fixing portions are drawn together (col. 4 / lines 6-17) so as to close the fissure and hold the bone pieces in compression; wherein simultaneously deforming the connecting members in the deforming step further comprises substantially symmetrically deforming the connecting members (see FIG. 4).



As to claims 1, 2, and 21-22, Murray discloses (see FIG. 2 inserted above) a bone fixing device for fixing bone pieces together, the bone fixing device comprising a pair of spaced-apart fixing portions (see above), each having at least one hole (see above) dimensioned such that a fastener capable of extending therethrough for coupling

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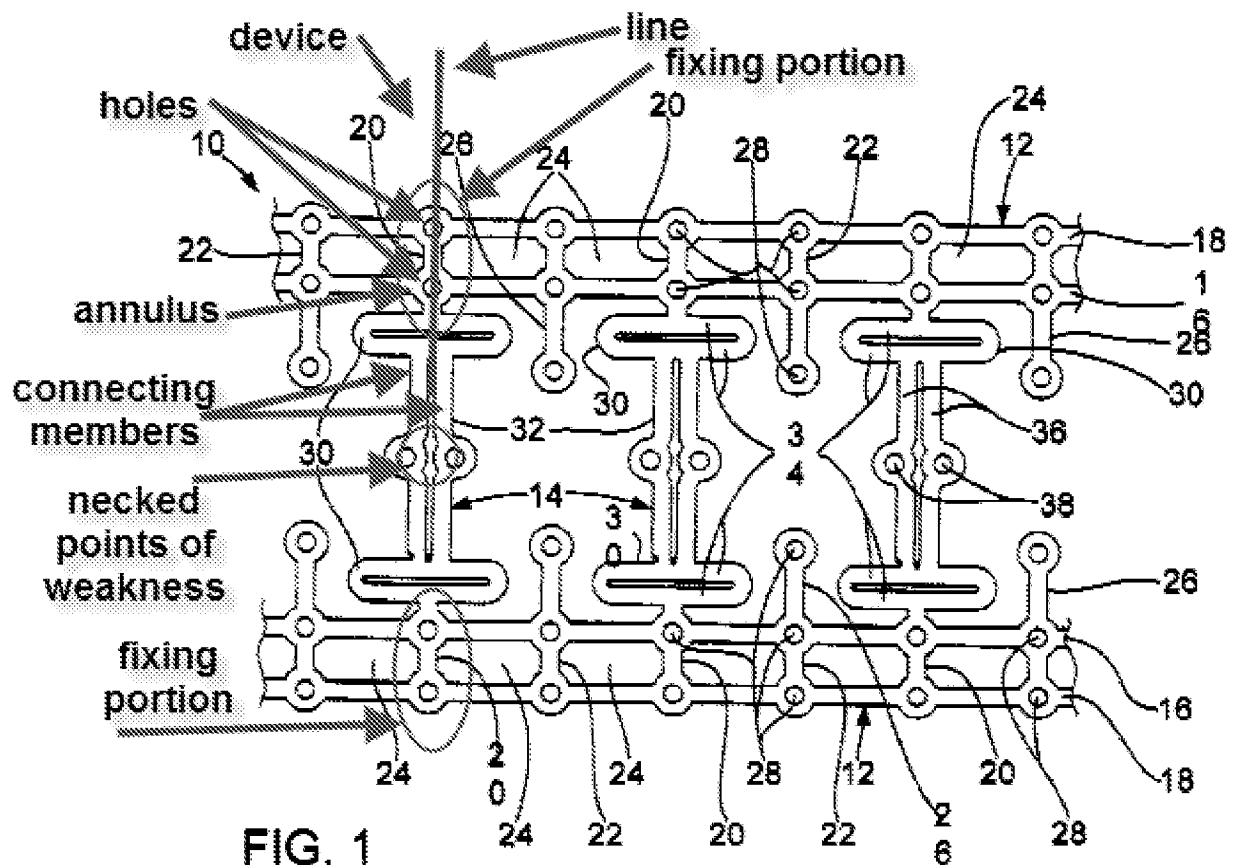
the fixing portion to bone; and, a pair of substantially rigid connecting members (see above) extending between and rigidly connecting the fixing portions, the connecting members being locatable across one or more fissures between the bone pieces and deformable while still substantially maintaining rigidity subsequent to deformation of the connecting members such that the deformation draws the fixing portions towards each other (col. 2 / line 66 to col. 3 / line 5) so that the one or more fissures are closed with the bone pieces held in compression (see FIG. 4); wherein a fixing portion comprises an annulus (see above); wherein the connecting members directly project from the fixing portions and there are no other projections from the fixing portions (see above, col. 1 / lines 43-44 stating that there may be only one bridge); wherein at least one of the *pair* of fixing portions is arranged to provide only a shingle coupling to the respective bone piece (see 112-2<sup>nd</sup> rejection above).

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 10-11 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Murray (US 6093188) in view of Michelson (US 2003/0060828).



As to claims 10-11, Murray discloses a bone fixing device (see FIGURE inserted above), the bone fixing device comprising a pair of spaced-apart fixing portions (see above), each having at least one hole (see above) dimensioned such that a fastener capable of extending therethrough for coupling the bone to the fastener; and, a pair of substantially rigid connecting members (see above) extending between and substantially rigidly connecting the fixing portions, the connecting members being deformable while substantially maintaining rigidity (col. 2 / line 66 to col. 3 / line 5) subsequent to deformation of the connecting members such that deformation draws the fixing portions towards each other; wherein a fixing portion is in the form of an annulus (see above).

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Murray discloses the claimed invention except for a system comprising at least two bone fixing devices, wherein at least one of the fixing portions of one of the bone fixing devices is configured to be concentrically overlapped with a fixing portion of another one of the bone fixing devices in a pivotable arrangement a bone fastener extending concentrically through the holes of the overlapped fixing portions.

Michelson discloses a system comprising at least two bone fixing devices, wherein at least one of the fixing portions (148) of one of the bone fixing devices is configured to be, *i.e.* capable of being, concentrically overlapped with a fixing portion (132) of another one of the bone fixing devices in a pivotable arrangement a bone fastener (106) extending concentrically through the holes of the overlapped fixing portions. (FIG. 1, [0074]) for covering of a range of sizes of necessary plated surfaces.

At the time of invention, it would have been obvious to a person of ordinary skill in the art to have modified Murray with a system comprising at least two bone fixing devices, wherein at least one of the fixing portions of one of the bone fixing devices is configured to be concentrically overlapped with a fixing portion of another one of the bone fixing devices in a pivotable arrangement a bone fastener extending concentrically through the holes of the overlapped fixing portions in view of Michelson for covering of a range of sizes of necessary plated surfaces.

As to claim 16, Murray discloses the claimed invention except for a method further comprising the providing step involving overlapping an annulus of a first bone fixing device with an annulus of a second bone fixing device such that a fastening means can extend through both of a pair of overlapped annuli.

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Michelson discloses a method further comprising the providing step involving overlapping an annulus of a first bone fixing device with an annulus of a second bone fixing device such that a fastening means can extend through both of a pair of overlapped annuli (FIG. 1, [0074]) for covering of a range of sizes of necessary plated surfaces.

At the time of invention, it would have been obvious to a person of ordinary skill in the art to have modified Murray with a method further comprising the providing step involving overlapping an annulus of a first bone fixing device with an annulus of a second bone fixing device such that a fastening means can extend through both of a pair of overlapped annuli in view of Michelson for covering of a range of sizes of necessary plated surfaces.

Claims 12-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Murray (US 6093188) in view of Michelson (US 2003/0060828) further in view of Farris et al. (US 6669700).

Murray in view of Michelson disclose the claimed invention except for a system further comprising at least one washer for overlapping with an annulus of a bone device, the washer having a hole that is frusto-conical or cylindrical in shape to receive the head of a bone screw.

Farris discloses a system comprising a washer capable of overlapping with an annulus of a bone device, the washer (90) having a hole that is frusto-conical (94) and

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cylindrical (93) in shape to receive the head and shaft, respectively, of a screw (see FIGS. 15-16) for the complementary mating of a screw to a plate.

At the time of invention, it would have been obvious to a person of ordinary skill in the art to have modified Murray in view of Michelson with a system comprising a washer capable of overlapping with an annulus of a bone device, the washer having a hole that is frusto-conical and cylindrical in shape to receive the head and shaft, respectively, of a screw in view of Farris for the complementary mating of a screw to a plate.

### ***Conclusion***

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to MICHAEL T. SCHAPER whose telephone number is (571)270-7413. The examiner can normally be reached on M-F, 7:30am-5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas Barrett can be reached on (571)272-4746. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/M. T. S./  
Examiner, Art Unit 3775

/Thomas C. Barrett/  
Supervisory Patent Examiner, Art  
Unit 3775